CLAIMS

1. A tissue cement protein having the amino acid sequence shown in Figure 3 or Figure 7 or containing any one of the partial amino acid sequences shown in any one of Figures 2, 4 to 6 and 8, related tissue cement proteins from blood-feeding parasites, preferably ticks, and functional equivalents thereof.

2. The tissue cement protein of claim 1 that is of the group A subtype as hereinbefore defined.

3. The tissue cement protein of claim 1 that is of the group B subtype as hereinbefore defined.

4. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that binds to vertebrate tissues.

5. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that is derived from a blood-feeding ectoparasite.

6. The tissue cement protein of claim 5 that is derived from ticks.

7. The tissue cement protein of claim 6 that is derived from Ixodid ticks.

8. The tissue cement protein of claim 7 that is derived from *Rhipicephalus appendiculatus*.

9. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that is associated with one or more carbohydrate moieties.

10. The tissue cement protein of claim 9 that is associated with one or more glycosaminoglycan moieties.

11. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that is expressed in recombinant form.

12. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that is associated with one or more peptides or polypeptides.

13. The tissue cement protein according to claim 12 which is associated with one or more self molecules to form a homodimer, homotrimer or homotetramer unit.

14. The tissue cement protein according to claim 12 associated with one or more non-self molecules to form a heterodimer, heterotrimer or heterotetramer unit.

15. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that has been genetically or chemically fused to one or more peptides or polypeptides.

16. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that has been cross-linked to one or more peptides or polypeptides.

17. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 attached to a label.

18. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 attached to a toxin.

19. The tissue cement protein of ~~any one of the preceding claims~~ Claim 1 that is bound to a support, such as a resin.

20. A pharmaceutical composition comprising a mixture of group A and group B tissue cement proteins according to ~~any preceding~~ claim 1 in the absence of other parasite saliva proteins but in the presence of one or more compounds capable of cross-linking said tissue cement proteins, in conjunction with a pharmaceutically-

acceptable excipient.

21. A pharmaceutical composition comprising a mixture of group A and group B tissue cement proteins according to ~~any one of claims 1 to 19~~ Claim 1 in the absence of other parasite saliva proteins in conjunction with a pharmaceutically-acceptable excipient.

22. A pharmaceutical composition comprising a mixture of group A and group B tissue cement proteins according to ~~any one of claims 1 to 19~~ Claim 1 together with those saliva proteins necessary for the cement-hardening process, but in the absence of other parasite saliva proteins, in conjunction with a pharmaceutically-acceptable excipient.

23. The tissue cement protein according to any one of claims 1 to 19 or a pharmaceutical composition of any one of claims 20 to 22 for use in therapy.

24. Use of the tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1 as a pharmaceutical.

25. The tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1 for use as a vaccine or as a component of a vaccine.

26. Use of the tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1 as a vaccine or vaccine component.

27. A vaccine comprising the tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1.

28. A method of production of the vaccine of claim 27 comprising immunising an animal with the tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1.

29. A method of bonding animal tissue comprising bringing an animal tissue into conjunction with one or more tissue cement proteins of ~~any one of claims 1 to 19~~ Claim 1 that are capable of forming a hardened cement.

30. The tissue cement protein of any one of claims 1 to 19 or a pharmaceutical composition of any one of claims 20 to 22 for use in the temporary or permanent bonding of tissues.

31. The tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1 for use as a protective immunogen in the control of diseases caused by infections transmitted by arthropod parasites.

32. A nucleic acid molecule which encodes a tissue cement protein of ~~any one of claims 1 to 19~~ Claim 1 or which hybridises with said nucleic acid molecule under standard hybridisation conditions.

33. The nucleic acid molecule of claim 32 which comprises DNA, cDNA or RNA.

34. The nucleic acid molecule of claim 32 or claim 33 which comprises DNA.

35. A cloning or expression vector comprising a nucleic acid molecule of ~~any one of claims 32 to 34~~ Claim 32.

36. The vector of claim 35 which is virus based.

37. The vector of claim 36 which is baculovirus based.

38. A host cell transformed or transfected with the vector of any one of claims 35 ~~to~~ 36 or 37.

39. A transgenic animal that has been transformed by the nucleic acid molecule of any one of claims 31 to 34 or a vector of one of claims 35 to 38.

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40. A method of preparing a tissue cement protein of any one of claims 1 to 19, comprising expressing a vector according to any one of claims 35 to 37 in a host cell and culturing said host cell under conditions where said protein is expressed, and recovering said protein thus expressed.